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Final Amendment and/or Response
Reply to final Office action of 19 April 2005

<u>**Amendments to the Claims**</u>:

A listing of the entire set of pending claims (including amendments to the claims, if any) is submitted herewith per 37 CFR 1.121. This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1-2. (Canceled)

3. (Previously presented) A liquid crystal displaying apparatus capable of displaying a color image, comprising:

a liquid crystal panel in which each main pixel unit including a red sub-pixel, a green sub-pixel, a blue sub-pixel and a luminance-enhancing sub-pixel, and

calculation means for calculating digital output values R_o, G_o and B_o for driving said red sub-pixel, said green sub-pixel and said blue sub-pixel, respectively, from digital input values R_i, G_i and B_i respectively for said red sub-pixel, said green sub-pixel and said blue sub-pixel and a predetermined digital value W for driving said luminance-enhancing sub-pixel so that a relationship of $R_i:G_i:B_i = (R_o+W):(G_o+W):(B_o+W)$ is satisfied, said values R_i, G_i and B_i being obtained from an input color image,

wherein said digital value W is obtained in accordance with a function represented by a formula $W = f(Y_{max}, Y_{min})$ where Y_{max} and Y_{min} are a maximum value and a minimum value, respectively, of said digital input values for said red sub-pixel, said green sub-pixel and said blue sub-pixel.

4. (Original) A liquid crystal displaying apparatus according to claim 3 characterized in that said function represented by said formula $W = f(Y_{max}, Y_{min})$ is a function which monotonously increases as a value of said Y_{max} value or said Y_{min} value becomes larger.

5. (Original) A liquid crystal displaying apparatus according to claim 3 characterized in that said formula of W is given by a function in which said Y_{min} is a variable with

said Ymax being a constant and in that said function represented by said formula W = f(Ymax, Ymin) is a function which monotonously increases as a value of said Ymin becomes larger.

6. (Canceled)

7. (Previously presented) A display device comprising:

a plurality of picture elements,

each picture element including a plurality of color sub-pixels and a white sub-pixel,

a decoder that is configured to receive a plurality of input color values and to produce therefrom a plurality of color pixel values that are used to drive corresponding color sub-pixels, and white pixel values that are used to drive the corresponding white sub-pixels,

wherein

the decoder is configured to:

determine a minimum color value and a maximum color value for each picture element,

produce the color pixel values for each picture element dependent upon the input color values and the maximum color value, and

produce the white pixel value for each picture element based on the minimum color value.

8. (Previously presented) The display device of claim 7, wherein

the decoder is configured to produce the color pixel values for each picture element dependent also upon the white pixel value.

9. (Previously presented) The display device of claim 8, wherein

the decoder is configured to produce the white pixel value for each picture element dependent also upon the maximum color value.

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10. (Previously presented) The display device of claim 9, wherein

the white pixel value is <= $Ymin*Ymax/(Ymax-Ymin)$ when $Ymin/Ymax <= 0.5$,
and

the white pixel value is <= $Ymax$ when $Ymin/Ymax > 0.5$,

where Ymin, Ymax corresponds to the minimum color value and the maximum
color value, respectively.

11. (Previously presented) The display device of claim 10, wherein

each color pixel value corresponds to $Ci*(W+Ymin)/Ymax - W$,

where Ci, W, Ymin, and Ymax correspond to the input color value, the white
pixel value, the minimum color value and the maximum color value, respectively.

12. (Previously presented) The display device of claim 7, wherein

the decoder is configured to produce the white pixel value for each picture
element dependent also upon the maximum color value.

13. (Previously presented) The display device of claim 12, wherein

the white pixel value is <= $Ymin*Ymax/(Ymax-Ymin)$ when $Ymin/Ymax <= 0.5$,
and

the white pixel value is <= $Ymax$ when $Ymin/Ymax > 0.5$,

where Ymin, Ymax corresponds to the minimum color value and the maximum
color value, respectively.

14. (Previously presented) The display device of claim 7, wherein

each color pixel value corresponds to $Ci*(W+Ymin)/Ymax - W$,

where Ci, W, Ymin, and Ymax correspond to the input color value, the white
pixel value, the minimum color value and the maximum color value, respectively.

15. (Previously presented) The display device of claim 7, wherein

the decoder is configured to provide the color pixel values for each picture element such that a ratio of the color pixel values to each other corresponds to a ratio of the input color values to each other.

16. (Previously presented) A method of determining a set of output values for driving sub-pixels of a pixel based on input color values, comprising:

determining a minimum color value and a maximum color value based on the input color values,

determining each output color value of the set of output values based on the corresponding input color value and the maximum color value, and

determining an output white value of the set of output values based on the minimum color value.

17. (Previously presented) The method of claim 16, wherein

determining each output color value includes

determining each output color value so that a ratio of each output color value to each other corresponds to a ratio of each input color value to each other.

18. (Previously presented) The method of claim 16, wherein

determining each output color value is also based on the output white value.

19. (Previously presented) The method of claim 16, wherein

determining the output white value is also based on the maximum color value.

20. (Previously presented) The method of claim 16, wherein

determining each output color value includes

calculating $Co = Ci*(W+Ymin)/Ymax - W$,

where Co, Ci, W, Ymin, and Ymax correspond to the output color value, input color value, the white pixel value, the minimum color value and the maximum color value, respectively.